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| 10/525,258      | 02/22/2005  | Gordon Alastair Bell | PPD 70111           | 5001             |

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SYNGENTA CROP PROTECTION, INC.  
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| EXAMINER |
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PRYOR, ALTON NATHANIEL

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| ART UNIT | PAPER NUMBER |
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1616

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| NOTIFICATION DATE | DELIVERY MODE |
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02/16/2011

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

department-gso.patent@syngenta.com

|                              |                                      |  |  |
|------------------------------|--------------------------------------|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/525,258 | <b>Applicant(s)</b><br>BELL, GORDON ALASTAIR |  |
|                              | <b>Examiner</b><br>ALTON N. PRYOR    | <b>Art Unit</b><br>1616                      |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 7-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 7-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

Applicant's arguments filed 6/16/10 have been fully considered but they are not persuasive. See argument below. Previous rejections and other issues not addressed below are withdrawn.

#### ***Claim Rejections - 35 USC § 103***

7. Claims 1 and 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mueninghoff et al. (US 6,156,705), in view of Waltersdorfer et al. (US 5,139,785), Scher et al. (US 5,332,584).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Applicant claims a microencapsulated agrochemical composition comprising an aqueous dispersion of microcapsules having material encapsulated therein wherein the material encapsulated within the microcapsules comprises (a) an agrochemical (b) a water-insoluble, bioperformance-enhancing adjuvant of formula (I) and (c) a water-immiscible solvent in which both the agrochemical and adjuvant are soluble.

Determination of the scope and content of the prior art (MPEP 2141.01)

Mueninghoff et al. teach pesticidal formulations comprising pesticides (i.e. herbicides (e.g. alachlor), insecticides, fungicides (e.g. dithiocarbamate), insect repellants, etc.) and an adjuvant composition comprising a fatty alcohol polyalkoxy alkyl ether of formula

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(I) and a cosurfactant/solvent such as, ethoxylated fatty amines, methyl oleate, silicone surfactants, etc. (see the abstract and column 1 lines 60-67, column 2 lines 1-7, and columns 3-5 (lipophilic pesticide agents)). The pesticidal composition contains from 99 to 15 % by weight of the adjuvant and 0.1 to 95% of an active ingredient (see column 5 lines 44-52).

Ascertainment of the difference between the prior art and the claims

(MPEP 2141.02)

Mueninghoff et al. teach that the instantly claimed components but do not teach the composition in the form of microcapsules. Further, Mueninghoff et al. do not teach the microcapsules having a diameter of less than 2 microns and polymer wall concentration of less than 3% by weight. These deficiencies are cured by the teachings of Waltersdorfer and Scher et al.

Waltersdorfer et al. teach pesticidal compositions can be formulated in various different ways including aqueous solutions, emulsions, sprayable solutions, microcapsules, etc. (see column 7 lines 20-30).

Scher et al. teach a process for the microencapsulation of substantially water- insoluble liquid material (core liquid) (see the abstract). The core liquid consists of one or more active (i.e. herbicide, insecticide, fungicide, insect repellent, etc.) dissolved in an inert solvent (see column 3 lines 15-36). The microcapsules have a shell or wall content ranging from about 1 to about 25% of the microcapsule, a droplet size diameter in the range of 0.5 to 4000 microns, and a microcapsule diameter ranges from 5 to 40 microns (see the abstract, column 9 lines 61-68, and the Examples). The microcapsules

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produced by this process are capable of a slow rate of release of the encapsulated liquid by diffusion through the shell into the surrounding environment (see column 2 lines 56-61).

Finding of prima facie obviousness

Rational and Motivation (MPEP 2142-2143)

One of ordinary skill in the art would have been motivated to formulate the instant claimed components into microcapsules because it is known in the art that agrochemical formulations comprising actives and adjuvants can be formulated into a variety of ways including microcapsules, as suggested by Waltersdorfer et al. Further, it is known in the art that microencapsulating an organic liquid solution comprising an active and adjuvant will result in slow releasing agrochemical formulations for long term application.

Thus, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to prepare the formulation taught by Mueninghoff et al. as microcapsules because it is an obvious variation of ways to prepare an agrochemical formulation, depending on the desired properties and release rate of the final product. Furthermore, although Mueninghoff et al. do not teach the mean diameter of the microcapsule of less than 2 microns and a total wall polymer concentration of less than 3%, Scher et al. suggest that microcapsules can be prepared with the instantly claimed diameter and polymer concentration. Thus, it would have been obvious to one of ordinary skill in the art to prepare microcapsules with the instantly claimed diameter and polymer wall concentration because it is an obvious variation of diameter range and

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polymer wall concentration that can be used in the preparation of agricultural microcapsules.

Therefore, the invention as a whole would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the reference, especially in the absence of evidence to the contrary.

### *Response to Arguments*

Applicants point out the problem addressed by the instant invention involves selection of a bioperformance enhancing adjuvant for use with an agrochemical in a microencapsulated composition since the adjuvant materials that have surfactant properties sometimes locate themselves at the oil/water interface interface during the encapsulation process and tend to interfere with the microcapsule wall-forming reaction. Applicants further argue that Mueninghoff is not dealing with microcapsules and would be unaware of the technical complications faced during the encapsulation process. Applicants argue that Waltersdorfer et al. are limited to pesticide compositions that can be formulated in numerous ways including microcapsules. Applicants argue that Scher et al are limited to a process for microencapsulation of substantially water insoluble liquid material within a shell having porous, but absolutely silent to adjuvants. Applicants argue that the Examiner provides no rationale that the composition of Mueninghoff could be modified by selecting microcapsules from Waltersdorfer et al and use Scher et al.'s process in order to overcome the problem addressed in the instant invention. Applicants argue that the Examiner uses hindsight to arrive at instant invention. The Examiner would like to remind the inventors that the claims are not drawn to a process,

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but rather to composition. The Examiner argues that the instant invention is drawn to a microcapsule composition containing an aqueous dispersion of microcapsules having encapsulated therein an agrochemical and water insoluble, bioperformance enhancing adjuvant (R-X). With the combination of references used in the 103(a) rejections, the Examiner has demonstrated that it is obvious to combine an agrochemical with an adjuvant. In addition, the Examiner use of the references shows that encapsulation of an agrochemical and an adjuvant into a microcapsule. Encapsulation is typically used to reduce the release rate of the actives. Although the prior art combination of references cited in rejection of record do not exemplify the instant microcapsule, the combination does make the instant microcapsule obvious. There is nothing unobvious in the microencapsulation of agrochemicals and adjuvants.

8. Claims 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mueninghoff et al. (US 6,156,705), in view of Waltersdorfer et al. (US 5,139,785) and Scher et al. (US 5,332,584), further in view of Roberts (US 5,580,567).

Applicant claims a microencapsulated agrochemical composition comprising an aqueous dispersion of microcapsules having material encapsulated therein wherein the material encapsulated within the microcapsules comprises (a) an agrochemical (b) a water-insoluble, bioperformance-enhancing adjuvant for said agrochemical wherein said adjuvant has little or no surfactant properties and (c) a water-immiscible solvent in which both the agrochemical and adjuvant are soluble.

Determination of the scope and content of the prior art

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(MPEP 2141,01)

Mueninghoff et al. teach pesticidal formulations comprising pesticides (i.e. herbicides (e.g. alachlor), insecticides, fungicides (e.g. dithiocarbamate), insect repellants, etc.) and an adjuvant composition comprising a fatty alcohol polyalkoxy alkyl ether of formula (I) and a cosurfactant/solvent such as, ethoxylated fatty amines, methyl oleate, silicone surfactants, etc. (see the abstract and column 1 lines 60-67, column 2 lines 1-7, and columns 3-5 (lipophilic pesticide agents)). The pesticidal composition contains from 99 to 15 % by weight of the adjuvant and 0.1 to 95% of an active ingredient (see column 5 lines 44-52).

Waltersdorfer et al. teach pesticidal compositions can be formulated in various different ways including aqueous solutions, emulsions, sprayable solutions, microcapsules, etc. (see column 7 lines 20-30).

Scher et al. teach a process for the microencapsulation of substantially water- insoluble liquid material (core liquid) (see the abstract). The core liquid consists of one or more active (i.e. herbicide, insecticide, fungicide, insect repellent, etc.) dissolved in an inert solvent (see column 3 lines 15-36). The microcapsules have a shell or wall content ranging from about 1 to about 25% of the microcapsule, a droplet size diameter in the range of 0.5 to 4000 microns, and a microcapsule diameter ranges from 5 to 40 microns (see the abstract, column 9 lines 61-68, and the Examples). The microcapsules produced by this process are capable of a slow rate of release of the encapsulated liquid by diffusion through the shell into the surrounding environment (see column 2 lines 56-61).



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Ascertainment of the difference between the prior art and the claims

(MPEP 2141,02)

Mueninghoff et al., Waltersdorfer et al., and Scher et al. do not teach the adjuvant having formula (11). This deficiency is cured by the teachings of Roberts.

Roberts teach a homogenous, essentially nonaqueous adjuvant composition to improve the chemical and physical properties of a pesticides, such as an herbicide, insecticide or fungicide comprising a spray oil, a blend of surfactants and a buffering agent that when combined with a pesticide, the composition becomes a more uniform spread of the spray solution of the herbicide or pesticide (see the entire article, especially the abstract, column 1 lines 11-17 and column 2 lines 58-64). The preferred surfactants include peg esters of the formula

$R(CO)-O(CH_2CH_2O)_nR'$

where R=02-025 fatty alkyl, R'=02-025 fatty alkyl and m=1 to 100 (see the entire article, especially column 3 lines 34-41).

Finding of prima facie obviousness

Rational and Motivation (MPEP 2142-2143)

One of ordinary skill in the art would have been motivated to use the instantly claimed adjuvant of formula (11) because it is known in the art that the instantly claimed adjuvant of formula II can improve the physical and chemical properties of agrochemicals.

Thus, it would be obvious to one of ordinary skill in the art at the time the claimed invention was made to use an adjuvant having formula (11), because the instant

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adjuvants of formula I for the purpose of improving the properties of agrochemical formulations.

Therefore, the invention as a whole would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the reference, especially in the absence of evidence to the contrary.

### *Response to Arguments*

Applicants argue that instant invention is to build into microcapsules particular adjuvants without disrupting the sensitive process used to generate those microcapsules, by cautions selection of the adjuvants as specified in claim 1. The Examiner argues that Roberts does not address this aspect of the instant invention. The Examiner would like to remind the inventors that the claims are not drawn to a process, but rather to composition. The Applicants provide no secondary considerations to support that the instant adjuvants would have a different effect on microcapsule building than non-claimed adjuvants.

### Conclusion

9. No claims are allowed.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

### ***Telephonic Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALTON N. PRYOR whose telephone number is (571)272-0621. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Alton N. Pryor/  
Primary Examiner, Art Unit 1616